

# PCB TMDL Monitoring

## VPDES Point Source Discharges

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# PCB Impairments in Virginia

## Overview and Data Needs

- PCB's and impairment information
- Data, Gaps and Needs

# PCBs?

- Biphenyl molecule with a specific number of chlorine atoms (1-10)



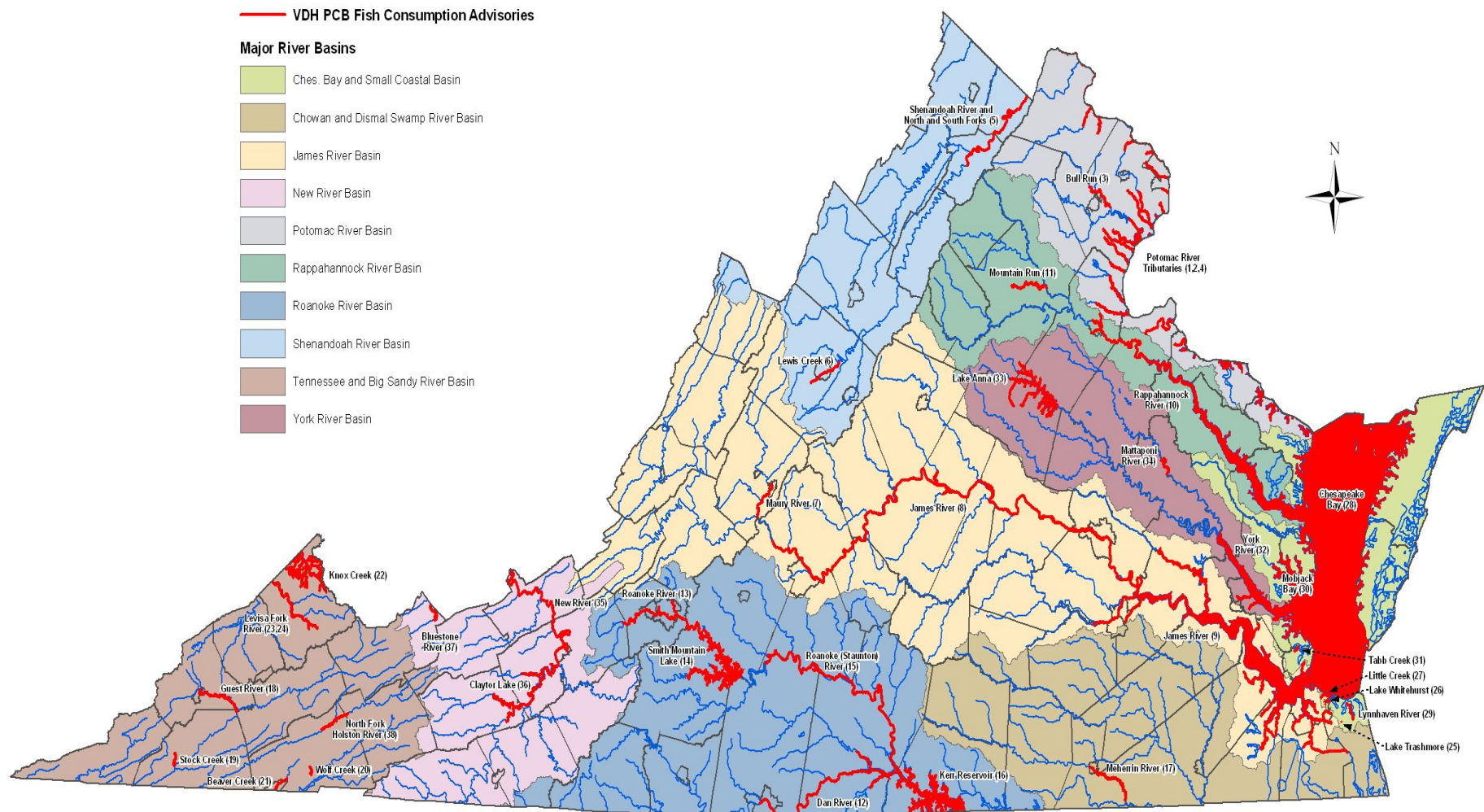
- 209 distinct Compounds (Congeners)
- Aroclor – mixture of Congeners
  - 7 primary formulations

# PCB Sources

- To be added.....

# VDH PCB Fish Consumption Advisories

(October 2004)



# PCB Impaired Waters

- VDH Fish Tissue Threshold = 50 ppb
- Water Quality Standard = 0.0017 ug/l
  - Total PCB Concentration that should be protective of fish accumulating PCBs at levels harmful to humans
- TMDL Required if assessed as impaired

# Point Source Data

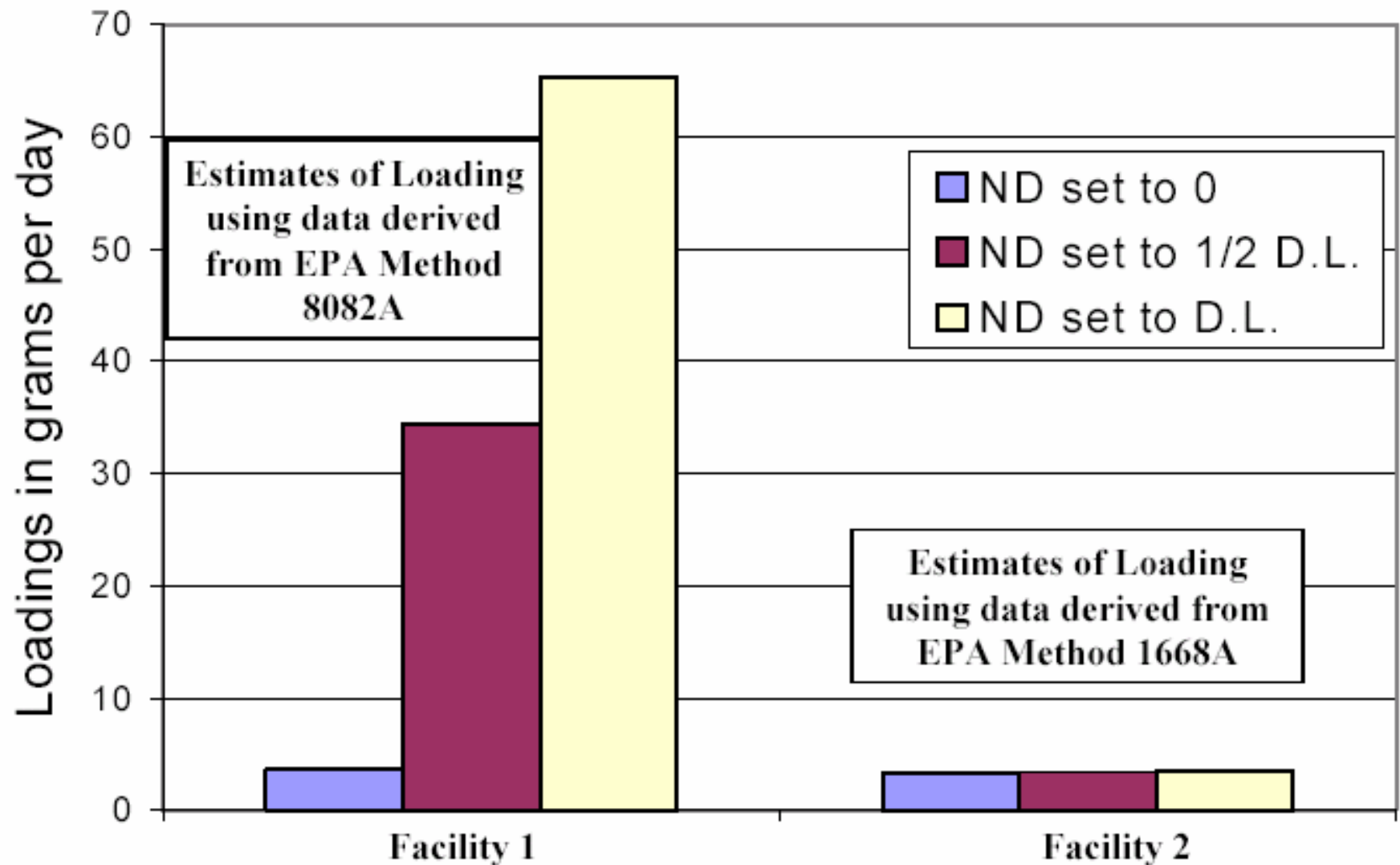
- Virginia PCB Monitoring Requirements for Major VPDES Facilities
- EPA Compliance Methods from 40 CFR Part 136
  - Method 608 and Method 625 – target aroclors
  - Method 608, MDL is 0.065 µg/L; Reporting level 0.5 – 1.0 ug/l
  - Method 625, MDL 36 µg/L; Reporting level 50 ug/l
  - VA WQS of 0.0017 µg/L total PCB's

# Point Source Data (Continued)

- TMDL Problem
  - Lacking ambient water and effluent PCB data at concentrations relevant to the WQS
  - Data deficiency require assumptions regarding loadings
  - Require a method that can measure low level PCBs



# Effect of Detection Limit on Loadings Calculation



# EPA Method 1668A

- Performance based method
  - High Resolution GC/High Resolution MS
- Measures Tot. PCB on a Congener-specific basis
  - MDL 5 pg/l (or 0.000005 ug/l)
  - Reporting Limit 8-12 pg/l
- Was used by DRBC for Delaware River Estuary TMDL
- Currently used for the Potomac and Roanoke/Staunton River TMDLs

# TMDL Guidance

- Goal: Collect data for TMDL development
  - ensures representative and comparable data
- Adopt sampling and analytical procedures similar to those developed by DRBC
- Develop PCB loading estimates for point sources